REVISIONAL NOTES ON AUSTRALIAN *CARABIDAE*.

Part vi. Tribe Bembidiini.

By Thomas G. Sloane.

The position of the tribe Bembidiini in the family *Carabidae* is after the tribe Merizodini, beside the Trechini; it may be defined briefly, but sufficiently, as follows:—

Anterior coxal cavities with a single opening inwards. Head with two supraorbital setae on each side; mandibles with a seta in scrobe of outer side; antennae with not more than two basal joints glabrous. Palpi subulate, maxillary with penultimate joint pubescent. Elytra with margin interrupted posteriorly by an internal plica.*

Table of Australian Genera.

1	(4)	Elytra with a scutellar striole at base of first interstice. Anterior tibiae not oblique at apex.
2	(3)	Clypeus decidedly obliquely narrowed to apex. Elytra with striae punctate, fifth stria not uniting with marginal channel at base .. Bembidion.
3	(2)	Clypeus wide, hardly narrowed to apex. Elytra with fifth stria extending in full depth to base and uniting with marginal channel. Cillenus
4	(1)	Elytra without a scutellar striole. Anterior tibiae oblique above apex on external side.
5	(8)	Eyes present.
6	(7)	Upper surface glabrous, except for the usual fixed hairs.† .. Tachys
7	(6)	Upper surface setulose. Eyes small; distant from buccal fissure beneath .. .. Limnastis
8	(5)	Eyes wanting .. .. Illaphanus

Genus Bembidion.

Latreille, Hist. Nat. Ins., iii., 1802. p. 82.

Latreille's name *Bembidion* was by later authors latinised to *Bembidium*, and in the Munich Catalogue of 1867 was emended to *Bembicidium;* recent opinion favours a return to Latreille's original name. In the Catalogus Coleop-

*In *Tachys macleayi* Sl., the internal plica is practically obsolete.

†Dr. Walther Horn has proposed the term "fixed" for those setae and hairs usually designated "tactile" or "sensitive" hairs; the term "fixed" appears to me the best, and is used throughout this paper (*Cf.* Horn W., in Wytsman's Gen. Ins., Fasc. 82c, *Cicindelinae*, 1915, p. 212.)

terorum Europae (1906) 23 subgeneric names are recognised among the 174 species there recorded, of which only *Philocthus* appears in our fauna; Netolitzky in 1914 proposed a subgenus *Notaphocampa* founded on *B. niloticum* Dej., into which *B. opulentum* Niet. will come.*

Blackburn published a table including all the Australian species (Trans. Roy. Soc. S. Aust., 1901, p. 122), which is merely an aid in the identification of the species; I therefore venture to offer the following table to indicate the natural groups among our species.

Table of Australian species known to me.

1	(4)	Frontal sulci shallow, not crossing clypeus, interspace depressed.
2	(3)	Prothorax cordate, sides sinuate posteriorly, lateral margin narrow, base a little arcuate, lightly oblique on each side .. .. .. *opulentum* Niet.
3	(2)	Prothorax transverse, rounded on sides, lateral margin wide, base shortly sublobate, strongly sinuate on each side .. .. .. *jacksoniense* Guer.
4	(1)	Frontal sulci deep, crossing clypeus, interspace convex.
5	(6)	Elytra with third and fifth interstices bearing fixed setae .. .. *proprium* Blackb.
6	(5)	Elytra with discal fixed setae only on third interstice.
7	(8)	Elytra with seven inner striae present .. .. *dubium* Blackb.
8	(7)	Elytra with six inner striae present .. .. *errans* Blackb.

B. hobarti Blackb. (Tasmania) and *B. wattsense* Blackb. (from the Watts River, a tributary of the Yarra) are unknown to me in nature; both are evidently species distinct from one another and from all our other species. *B. hobarti* has the seventh stria perceptible; it may be allied either to *B. proprium* or *B. dubium*, though it is not likely to have fixed setae on the fifth interstice. *B. wattsense*, having only the five inner striae marked, is thus differentiated from all the other Australian species known.

Bembidion opulentum Nietner.

Ann. Mag. Nat. Hist., (3), ii., 1858, p. 420; Andrewes, Ann. Mag. Nat. Hist., (9), iii., 1919, p. 472; Sloane, Proc. Linn. Soc. N.S. Wales, xlv., 1920, p. 321.—*B. europs*, Bates, Ann. Mag. Nat. Hist., (5), xvii., 1886, p. 156.—*B. riverinae*, Sloane, Proc. Linn. Soc. N.S. Wales, (2), ix., 1894, p. 405.

I believe the synonymy given above to be correct; probably *B. hamiferum* Fauvel (1882) from New Caledonia will prove to be the same species.

Hab.—Australia, Sumbawa, Java, Ceylon, India. Beside fresh water.

Note.—It has been found in Queensland, New South Wales, and Victoria, but I have not seen it from South Australia or Western Australia.

Bembidion jacksoniense Guérin.

Voy. Coquille, 1830, p. 61, Pl. i., fig. 17; Sloane, Proc. Linn. Soc. N.S. Wales, (2), ix., 1894, p. 406.—*Bembidium subviride*, Macleay, Trans. Ent. Soc. N.S. Wales, ii., 1871, p. 118.—*B. ocellatum*, Blackburn, Trans. Roy. Soc. S. Aust., x., 1886-87 (1888), p. 44; Proc. Linn. Soc. N.S. Wales, (2), vii., 1892, p. 98.

This species seems to be found over the whole continent of Australia beside fresh water.

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*I have not seen any of the numerous memoirs on the tribe Bembidiini published by Dr. Netolitzky in recent years.

BEMBIDION PROPRIUM Blackburn (1887).*

In his description of this species Blackburn has mentioned the long sparse setae of the elytra; these are on the third (two setae) and fifth interstices (about four setae), as in some species from New Zealand.

I have only taken one specimen, beside a little rivulet near where it entered the sea; I have not seen it from an inland locality.

Hab.—South Australia: Port Lincoln (Blackburn); Victoria: Melbourne, Lakes Entrance (Wilson); N.S. Wales: Wollongong (Sloane).

BEMBIDION DUBIUM Blackburn (1887).

Hab.—South Australia: Port Lincoln and Bank of Murray (Blackburn); Victoria: Serviceton and Yea (Sloane); New South Wales: Mulwala (Sloane), Delegate (from Mr. H. J. Carter, ticketed "attracted to light"). Beside fresh water.

BEMBIDION ERRANS Blackburn (1887).

Blackburn says of this species, "probably occurring only near the coast"; I have not seen it from an inland locality. I found it in Western Australia on the muddy margin of the Vasse River within the tidal influence.

Hab.—South Australia: Port Lincoln, Adelaide, mouth of the Murray River (Blackburn); Victoria: Melbourne (Fischer).

Genus CILLENUS.

Cillenus Samouelle (1819) is older than *Cillenum* Curtis (1829) which has also been used.

The genus is widely spread on sea beaches, having been reported from Europe (England to the shores of the Mediterranean), New Guinea, Australia (east coast), and New Zealand. Our two species differ, *inter alia* from *C. lateralis* Sam., by elytra more strongly striate, third interstice 2-punctate, not 4 punctate, basal part of the lateral furrow which passes round the shoulders deeper.

CILLENUS MASTERSI Sloane.

Hab.—Sydney; Tasmanian shore of Bass Straits (Ulfracombe, Simson).

CILLENUS ALBOVIRENS Sloane.

Differs from *C. mastersi* Sl., by prothorax much more narrowed to base and more strongly rounded on sides; elytra more oval, more strongly shagreened, etc.

Hab.—Queensland: Cairns (Dodd).

Genus TACHYS.

Stephens, Ill. Brit. Ent., ii., 1828, p. 2.

The full synonymy of the genus *Tachys* is not given here, but a list of those names to which generic or subgeneric rank has been attributed by different authors is subjoined, in each case followed by the name of the author, year of publication, and the name of an Australian representative species:—

*In this paper references are given only where the synonymy of a species requires to be stated, in other cases the date is given so that the species may be found readily in zoological literature.

Tachyta Kirby, 1837 (*T. brunnipennis* Macl.); *Elaphropus* Motschulsky, 1839 (*T. bifoveatus* Macl.); *Tachylopha* Motschulsky, 1862 (*T. spenceri* Sl.); *Tachyura* Motschulsky, 1862 (*T. curticollis* Sl.)*; *Polyderis* Motschulsky, 1862 (*T. captus* Blackb.)

I give below some notes on characters which vary in the genus *Tachys*.

Antennae.—There is considerable difference in the length of the antennae owing to differences in the form of the joints; *T. macleayi* Sl., shows the longest antennae with the longest joints, and *T. captus* Blackb., one of the shortest with moniliform joints. The relative length of the second and third joints varies, in *T. murrumbidgensis* Sl., the second joint is shorter than the third, in *T. macleayi* longer; the longer second joint seems a recent character.

Frontal sulci.—The front is always bi-impressed; two chief forms of the sulci may be noted, viz., (1) short, not extending on to the clypeus, and (2) elongate, extending across the clypeus; the elongate sulci, in traversing the clypeus, isolate the fixed seta on each side. The short form of the sulci is the ordinary one, and evidently the most ancient, but the single character of a similarity in the form of the frontal sulci does not in itself show near relationship between species.

Prothorax.—The prothorax shows many variations in shape; it may be convex, or depressed, it may have the base wide with sharply rectangular angles, the sides parallel posteriorly (*T. eetromioides* Sl.), or the base narrow, the sides strongly rounded and sinuate before the base (*T. monochrous* Schm.); and there are many other variations in shape. The base is always more or less produced backward in the middle, the degree of prominence varying considerably. The posterior angles vary a good deal. A transverse sulcus across the base, defining a median basal area, is almost always present, but is wanting in *T. speneeri* Sl., and *T. iaspideus* Sl.; it is generally more or less punctate, simple in *T. lindi* Blackb., and 5-foveate in *T. convexus* Macl., and in the Oriental species *T. interpunctatus* Putz. Some species have a short longitudinal submarginal carina near each basal angle, but this character does not seem in itself of much use in showing relationships between species.

Elytra.—The striation may vary from fully striate (*i.e.*, 9-striate) as in *T. amplipennis* Macl. to laevigate (without striae) as in *T. macleayi;* in species with less than nine striae any number from eight (seventh obsolete), as in *T. monochrous*, to one, as in *T. bifoveatus* Macl., may occur; the outer stria is successively lost as the number becomes less, with the result that the first is the most persistent. The varying forms of the eighth stria and ninth interstice are of high taxonomic value; the eighth stria may be deep, simple, and entire, with the ninth interstice convex, or entire with the ninth interstice depressed, or it may consist of a row of punctures along the side, or it may be obsolete on the side though well marked towards the apex, or it may be altogether obsolete. A striole (apical striole) is present in nearly all species of *Tachys* on the apical declivity of each elytron; it is sometimes near the margin, in about the position of the normal seventh stria, though usually it is about the middle line of the elytra. The apical striole is evidently derived from the apical part of the seventh stria, and the interval between it and the eighth stria is

*Bates, after 1881, habitually used the subgeneric term *Barytachys* (which he attributed to Chaudoir) for *Tachys klugi* Nietner, and many allied species (*T. bipustulus* Macl., is an allied Australian species) but I have not been able to trace the name *Barytachys* in the literature available to me, nor to find out in what way it differs from *Tachyura*.

homologous with the seventh interstice which occurs throughout the tribe Merizodini, and in *Amblytelus* and some other genera of the Pterostichini, and also in the tribe Bembidiini in the genus *Ocys*. It is probable that *T. amplipennis* and *T. nervosus* Sl., belong to a stem in which apical strioles were wanting, but that *T. yarrensis* Blackb., *T. australicus* Sl., and *T. captus* Blackb., are descended from species which had these strioles developed. The fixed setiferous pores or punctures of the elytra have considerable taxonomic value; they may occur on the third, fifth, seventh, and ninth interstices.* The setiferous punctures of the ninth interstice are always present, but no use is made of them here. On the inner side of the apical striole, well back from its anterior extremity, in those species with two discal setiferous punctures, a puncture may be seen which is homologous with the setiferous puncture or punctures so often found in the *Carabidae* near the apex of the seventh interstice (*e.g.*, tribes Merizodini and Pterostichini); the homologies of this fixed apical puncture of the seventh interstice can be made out best in *T. amplipennis*, where, there being no apical striole, it can be seen on the inner side of the eighth stria. Setiferous punctures occur on the fifth interstice in *T. interpunctatus* Putz., and in an undescribed species allied to *T. ovatus* Motsch., which has been sent to me by Mr. H. E. Andrewes ticketed "Nilgiri Hills." The fixed setiferous punctures of the disc are of recognised value in the classification of the species of *Tachys:* in many species there are two discal punctures, in others only one. Generally when there are two discal punctures they are on, or at the position of, the third interstice; when they are so placed there never seems to be a third puncture, but sometimes (*T. bifoveatus* Macl., and extra-Australian allied species) only the posterior discal puncture (non-setiferous) remains on, or at, the position of the third stria. Some species (*e.g.*, *T. murrumbidgensis*) have two discal punctures on the fourth interstice and a third one, high up on the apical declivity, on the third interstice. In species with one discal puncture, forward on the elytra, it may be on the third, fourth, fifth or sixth interstice, and, in all these cases, there is a second setiferous puncture high up on the apical declivity, either inside the anterior extremity of the apical striole, or before its extremity; this setiferous puncture of the apical declivity is evidently homologous with the third puncture of *T. murrumbidgensis* and not with the puncture mentioned above as occurring beside the apical striole far back from its extremity, which is also present in *T. murrumbidgensis*. The single setiferous puncture before the middle, whether it occurs on the third, fourth, fifth, or sixth interstice must be considered to be the same thing, its original position having been on the third interstice, whence it has shifted to as far out as the sixth; evidences of this may be seen in a slight irregularity of the sculpture of the elytra beside the puncture inwardly in *T. triangularis* Net., in which it is on the fourth interstice, and in Oriental species in my collection where it is on the fifth interstice; in other Oriental species in

* *T. interpunctatus* Putz., from Celebes, has the elytra between the first and ninth interstices (this last convex) sparsely setigero-punctate; the punctures are strong and are disposed in rows on or at the position of interstices 2—8. It seems probable that setosity of the upper surface was a character of the primitive Bembidiini. It occurs to a marked degree in the present-day genera *Limnastis* and *Asaphidion*. It may be noted that some species of *Tachys* (e.g. *T. brunnipennis* Macl. and *T. murrumbidgensis* have the upper surface punctulate, and, though the punctures are no longer setiferous, we may suppose such species to have descended from ancestors in which setae were present.

which it is on the sixth interstice a similar irregularity occurs, though in these species the third stria and interstice are regular.

Tarsi.—In *Tachys* the posterior tarsi are generally elongate and slender, but are short and stout in *T. murrumbidgensis.* The length of the first joint varies from longer than the three succeeding joints together, to shorter than the two succeeding joints together. Some use has been made of the differences in length of the posterior tarsi, but I have not given sufficient attention to the question of the variations of the posterior tarsi in the genus *Tachys* to enable me to speak confidently regarding the taxonomic value of such differences as I have observed; attention may be drawn to the relatively short posterior tarsi of *T. ovensensis* Blackb., in comparison with the elongate ones of *T. striolatus* Macl.

Colour.—The colours in the tribe Bembidiini are very variable; as a rule sombre colours must be looked upon as more primitive than bright colours, or lively patterns. Joints 7—11 of the antennae are pallid in *Tachys macleayi* and *T. ovatus,* species not at all nearly related to one another. A similar paleness of some of the joints of the antennae occurs in many species of the tribe Odacanthini, especially those of South America, also in the Australian genus *Homothes* of the tribe Anchomenini (*H. elegans* Newm., joints 7 and 8, *H. velutinus* Macl., joints 7—10 pallid). Somewhat similar spots on the elytra to those which occur in many species of *Tachys* are found in the tribe Odacanthini. I would note here that these pallid joints of the antennae and pale spots of the elytra in the tribe Odacanthini are more ancient than the present-day genera, and probably have considerable taxonomic value; they seem to be "recognition"—or "warning"—marks.

Table of Australian Species.

1	(28)	Elytra with ninth interstice convex; eighth stria strongly impressed; two setiferous punctures on disc, on or at position of third interstice.
2	(5)	Elytra without apical striole. (Prothorax with a submarginal carina. Colour brownish testaceous.)
3	(4)	Elytra 9-striate; interstices ordinary, convex. 3.3 mm., *amplipennis* Macl.
4	(3)	Elytra 17-striate; eight inner striae duplicated. 3.3 mm., *nervosus* Sl.
5	(2)	Elytra with distinct apical striole, a distinct puncture beside inner margin of apical striole far back.
6	(25)	Prothorax with a transverse basal impression. Elytra with border not prominent behind humeral angles; lateral channel passing round humeral angles.
7	(24)	Frontal sulci short, wide apart, not extending on to clypeus.
8	(23)	Prothorax with posterior angles not forming a prominent tubercle.
9	(16)	Prothorax with base wide, truncate on each side; lateral basal impressions distant and separated from lateral margin by a wide depressed space.
10	(13)	Elytra with fifth stria uniting with marginal channel at base; 4-maculate.
11	(12)	Elytra with all striae indicated, seventh short, only impressed in middle; humeral macula extending from fifth stria to margin. 2.8 mm. .. .. *banksi* Sl.
12	(11)	Elytra 6-striate (seventh stria obsolete); humeral macula on interstices 7 and 8, not reaching base. 3.1 mm. .. .. .. *buprestioides* Sl.
13	(10)	Elytra with fifth stria not reaching base; 2-maculate.
14	(15)	Elytra 6-striate. 2.2—2.6 mm. .. .. *bipustulatus* Macl.
15	(14)	Elytra 5-striate. 2.9 mm. .. .. *solidus* Sl.
16	(9)	Prothorax angustate posteriorly; base not or hardly wider than apex; lateral basal impressions deep, concave, narrowly divided from lateral margin by a convex interspace.

17 (20) Elytra with more than two striae.
18 (19) Elytra 6-striate, 2-maculate. 3 mm. .. .. *helmsi* Sl.
19 (18) Elytra 5-striate, 4-maculate. 2.8 mm. .. .. *striolatus* Macl.
20 (17) Elytra 2-striate.
21 (22) Black, elytra with two red maculae. 2.9—3.1 mm. *ovensensis* Blackb.
22 (21) Brown, elytra with four testaceous maculae. 2.5 mm. *flavicornis* Sl.
23 (8) Prothorax with an ante-basal triangular tubercle marking posterior angles. (Elytra 1-striate, 4-maculate). 2.3—2.8 .. .. *convexus*, Macl.
24 (7) Frontal sulci elongate, deep, converging and crossing clypeus. (Elytra 1-striate, 4-maculate). 2 mm. .. .. *curticollis* Sl.
25 (6) Prothorax without a transverse basal impression. Elytra with border subprominent just behind shoulders; lateral channel obsolescent on base.
26 (27) Prothorax with basal angles marked by a little tubercle. Elytra 2-striate. 2.5—2.7 mm. .. .. *spencei* Sl.
27 (26) Prothorax with basal angles not tuberculate. Elytra 1-striate. 2.8 mm. *iaspideus* Sl.
28 (1) Elytra with ninth interstice depressed, often not indicated on middle of sides; eighth stria entire, or represented by a row of punctures along sides, or obsolete at least in middle.
29 (68) Elytra with two fixed punctures on disc [in *T. bifoveatus* Macl., and extra-Australian allied species only the posterior (non-setiferous) puncture present], and a puncture on inner side of apical striole (if present) far back.
30 (39) Upper surface of head and prothorax (also elytra, except in *T. wilsoni* Sl.) more or less punctulate. Anterior discal puncture of elytra outside third interstice. Posterior tarsi short.
31 (32) Prothorax transverse, wide across base, with a submarginal basal carina. Elytra with eighth stria entire; two setiferous punctures on fourth interstice, anterior at basal sixth, posterior just before apical declivity. 2.5—2.8 mm. .. .. *brunnipennis* Macl.
32 (31) Prothorax subcordate, angustate to base, no submarginal basal carina. Elytra with eighth stria obsolete on sides; three setiferous punctures (two discal) anterior on or at position of fourth interstice, posterior high up on apical declivity; an abbreviated fifth stria present towards base.
33 (38) Form narrow, depressed (more than twice as long as broad). Frontal sulci long, deep, parallel. Elytra minutely punctate, at least four inner striae marked.
34 (37) Head not narrowed behind eyes; eyes of ordinary size.
35 (36) Brown. Prothorax distinctly shagreened and punctate. 1.75—2.4 mm. *murrumbidgensis* Sl.
36 (35) Black. Prothorax nitid, puncturation very faint and microscopic. 2.4 mm. .. .. *kui* Sl.
37 (34) Head obliquely narrowed behind eyes; eyes small and distant from buccal fissure beneath. Testaceous. 2 mm. .. .. .. *obliquiceps* Sl.
38 (33) Form stout, convex (about twice as long as broad). Frontal sulci short, shallow. Elytra impunctate, first stria, and fifth near base marked. 2 mm. .. .. *wilsoni* Sl.
39 (30) Upper surface impunctate (excepting for fixed setiferous punctures).
40 (65) Elytra with a well developed apical striole and a puncture beside inner side of this striole far back.
41 (58) Elytra with eighth stria indicated on sides, and extending forward at least as far as anterior punctures of ninth interstice.
42 (47) Prothorax with a submarginal carina.
43 (44) Prothorax very wide across base, parallel on sides. Elytra depressed on disc. Bicoloured. 3 mm. .. .. *ectromioides* Sl.
44 (43) Prothorax evidently narrowed to base; sides oblique posteriorly. Elytra convex, black
45 (46) Elytra bistriate, eighth stria strongly impressed on sides. 2.6 mm. *atridermis* Sl.

46 (45) Elytra lightly bistriate, eighth stria obsolete on middle of sides. 2 mm. *carinulatus* Sl.

47 (42) Prothorax without a submarginal carina. Eighth stria punctate on sides.

48 (53) Prothorax strongly sinuate posteriorly; basal area greatly depressed below plane of pronotum and defined by a strong sulcus. Species of reddish colour.

49 (50) Elytra 6-striate 2.6 mm. . . . . *monochrous* Schm.

50 (49) Elytra 5-striate.

51 (52) Prothorax with border forming the narrow margin of the deep basal fovea; lateral margin with several setae near apex. 2.6 mm. *seticollis* Sl.

52 (51) Prothorax with space between end of transverse basal sulcus and lateral margin triangular, lateral border not forming margin of the basal impression. 2—2.3 mm. . . . . *flindersi* Blackb.

53 (48) Prothorax shortly sinuate posteriorly; basal area not decidedly below plane of pronotum in middle; transverse basal sulcus more or less interrupted, at least in middle.

54 (55) Prothorax with lateral border obsolete; sides very rotundate, and greatly narrowed to base. 2—2.3 mm. . . . . *semistriatus* Blackb.

55 (54) Prothorax with lateral border ordinary. Black species.

56 (57) Elytra 6-striate. 2—2.2 mm. . . . . *habitans* Sl.

57 (56) Elytra 5-striate. 2.2 mm. . . . . *olliffi* Sl.

58 (41) Elytra with eighth stria obsolete, at least on middle of sides.

59 (60) Frontal sulci deep, long, convergent, crossing clypeus. 6-striate. 2 mm. *mitchelli* Sl.

60 (59) Frontal sulci not crossing clypeus.

61 (64) Prothorax transverse; base much wider than apex; lateral basal impressions distant from basal angles.

62 (63) Form ovate. Elytra depressed; disc with two fixed setiferous punctures, 3-striate. 2.5—3 mm. . . . . *mulwalensis* Sl.

63 (64) Form short, oval, very convex. Elytra with one non-setiferous puncture behind middle, 1-striate. 2—2.2 mm. . . . . *bifoveatus* Macl.

64 (61) Prothorax cordate, base and apex about equal in width. Black; elytra 2-striate. 2 mm. . . . . *blackburni* Sl.

65 (40) Elytra with apical striole obsolescent.

66 (67) Form convex. 1.7 mm. . . . . *australicus* Sl.

67 (66) Form depressed. 1.5 mm. . . . . *captus* Blackb.

68 (29) Elytra with one fixed setiferous puncture on disc before middle and a setiferous puncture high up on apical declivity.

69 (90) Elytra striate.

70 (71) Elytra fully striate; apical striole obsolete. 2—2.3 mm *yarrensis* Blackb.

71 (70) Elytra never fully striate; apical striole distinct.

72 (85) Elytra with fixed, setiferous, discal puncture on or at position of third interstice.

73 (84) Elytra with apical striole elongate, extending past fixed setiferous puncture of apical declivity.

74 (77) Elytra ovate, 4-maculate.

75 (76) Head, prothorax and dark parts of elytra black. 2.7—3 mm. *doddi* Sl.

76 (75) Head and dark parts of elytra reddish piceous, prothorax reddish. 2—2.5 mm. . . . . *lindi* Blackb.

77 (74) Elytra narrow, parallel.

78 (79) Piceous, 2—2.3 mm. . . . . *uniformis* Blackb.

79 (78) Not wholly piceous.

80 (83) Head and prothorax piceous.

81 (82) Elytra piceous with a wide testaceous vitta on each side (the vitta sometimes interrupted in the middle). 2.3—2.7 mm. *queenslandicus* Sl.

82 (81) Elytra testaceous with indeterminate infuscation. 2.5 mm. *infuscatus* Blackb.

83 (80) Prothorax reddish testaceous. 2.7 mm. .. .. *similis* Blackb.
84 (73) Elytra with apical striole short, not extending forward to setiferous puncture of apical declivity. 1.8—2.1 mm. .. .. *sinuaticollis* Sl.
85 (72) Elytra with fixed setiferous discal puncture outside third interstice or its position.
86 (87) Elytra with the fixed, setiferous, discal puncture on fourth interstice. Testaceous; head, apex, and a median fascia piceous. 2.3—2.5 mm. *triangularis* Niet.
87 (86) Elytra with the fixed setiferous discal puncture outside fourth stria or its position.
88 (89) Size major, form robust, elytra wide, oval, convex. 2.8 mm. *mastersi* Sl.
89 (88) Size minor, form depressed. 2.3—2.6 mm .. .. .. *transversicollis* Macl.
90 (69) Elytra laevigate (apical striole obsolete), 4 maculate. 2.6—2.8 mm. *macleayi* Sl.

TACHYS AMPLIPENNIS Macleay (1871).

A good many specimens were obtained on a sand-bank of the Upper Normanby River, near Cooktown, in June; these were dislodged from their hiding places in the sand by splashing water from the river.

TACHYS VICTORIENSIS Blackburn (1891)

Very nearly allied to *T. amplipennis*. It is unknown to me in nature; the following note, dated 16-3-1903, was sent to me by the late Rev. Thos. Blackburn, after I had sent him a specimen of *T. amplipennis*. "Compared with specimen sent as *T. amplipennis*—very close, disc much darker (in strong contrast to shoulders and apex); joints 5—11 of antennae quite dark fuscous in contrast to basal joints. Prothorax less transverse, more narrowed in front and with the greatest width more distinctly in front of the middle. I think the two are distinct; at any rate *T. victoriensis* is a well marked mountain race, even if subsequent investigation produces intermediate forms from other places."

TACHYS NERVOSUS Sloane (1903).

In July, 1916, I found *T. nervosus* plentiful on the sandy bed of the Laura River at the terminus of the Cooktown—Laura railway. It was a very noticeable species, from its pale-coloured, widely spread legs in contrast with the darker colour of the upper surface of the body, which is sometimes almost brown on the disc of the elytra, as it ran quickly over the sand before taking to the wing, when disturbed by the splashing of water over the sand. The additional striae, which have been developed on interstices 1—8 of the elytra, are deepest on the disc; one specimen, with the extra striae less strongly impressed than usual, shows, at the apex, practically the same striae and interstices as *T. amplipennis* Macl.

TACHYS BANKSI, n.sp.

Robust, oval, convex. Front shortly bi-impressed. Prothorax transverse, wider across base than apex; basal angles rectangular; a punctate line across middle of base. Elytra ovate, fully striate; seventh stria very short, situated between humeral and apical maculae, fifth stria reaching marginal channel at base, eighth stria entire, deep, simple; ninth interstice convex; disc bipunctate on third interstice; a puncture on inner side of apical striole, far back. Piceous; pronotum of a bronzy tint; elytra 4-maculate, humeral macula rather elongate, extending from fifth stria to margin at base, apical macula between third and eighth striae, apex lurid-testaceous. Length, 2.8, breadth, 1.2 mm.

Hab.—Queensland. I found two specimens on the margin of the Normanby River at Kings Plains cattle station.

The striation is as follows: 1 entire, 2—4 reaching nearly to base, 6 and 7 abbreviated basad, 3—7 successively shorter distad, and not extending on to apical macula. Allied to *T. buprestioides* Sl., but differing by size smaller; prothorax with sides more rounded, more narrowed to base, juxta-basal sinuosity a little stronger, anterior angles less marked; elytra with seventh stria well developed on the piceous space between the maculae, humeral macula spreading over fifth and eighth interstices at base, apical macula extending inwards to third stria.

Tachys bipustulatus Macleay.

Bembidium bipustulatum, Macleay, Trans. Ent. Soc. N.S. Wales, ii., 1871, p. 116 (*non* Sloane, 1896).—*T. froggatti*, Sloane, Proc. Linn. Soc. N.S. Wales, xxi., 1896, p. 362.

The late Rev. Thos. Blackburn drew my attention to the fact that Macleay's description of *T. bipustulatus* suited my *T. froggatti* better than the species to which I assigned it in 1896, and, on reading that description with both these species before me, I found this opinion correct. I then again examined the specimens of Masters' collecting from Gayndah in the Australian Museum, which must be taken to be those Macleay had before him, and found there were two specimens gummed on one card which were of the two species under discussion. Before I knew *T. bipustulatus*, I had compared the specimen I had of the species I now name *T. solidus* with these specimens from Gayndah, and, finding it agreed with one of them, had not noticed what the other was; as a result, the species which I had wrongly identified bore the name *T. bipustulatus* Macl., in my collection, when I got the true *T. bipustulatus* in 1896, so I regarded this as an undescribed species. It is evident that Macleay's statements "thorax narrowed behind" and "legs, palpi and antennae yellow" are more applicable to the species I called *T. froggatti* than to that identified by me in 1896 as *T. bipustulatus;* therefore, Blackburn's view must be upheld.

Tachys solidus, n.sp.

T. bipustulatus, Sloane (*non* Macleay), Proc. Linn. Soc. N.S. Wales, xxi., 1896, p. 363.

Robust, oval, convex. Front shortly bi-impressed. Prothorax transverse, wider across base than apex; sides lightly rounded anteriorly, a little narrowed and subsinuate to base; basal angles rectangular; a curved transverse impression across base. Elytra ovate, convex, 5-striate; striae simple, first entire, 2—5 not reaching base, 3—5 successively shorter distad, not extending on to apical declivity, eighth entire, deep; ninth interstice convex; disc bipunctate on third interstice; a puncture on inner side of apical striole far back. Shining bronzed black; elytra bimaculate towards apex; antennae infuscate, basal joint testaceous, second and third joints subtestaceous with a dark median ring; legs light brown, femora darker than tibiae. Length, 2.9; breadth, 1.9 mm.

Hab.—Queensland: Laura River (Sloane), Townsville (Dodd), Gayndah (Masters); N.S. Wales: Junee (Sloane). Habits riparian.

Very like *T. bipustulatus* Macl., with which Macleay (and Masters, too), confused it (*cf.* under *T. bipustulatus, supra*), but differing by prothorax a little more rounded on sides, and a little more narrowed to base; elytra with five (not six) inner striae present.

TACHYS HELMSI Sloane (1898).

Hab.—W. A.: Upper Ord River (Helms); Queensland: Upper Normanby River (Sloane). East Indian Islands.

I have no note of the circumstances under which I found this species. A specimen from some locality in the East Indies, which I cannot decipher, was among the duplicates of the Van de Poll Collection.

TACHYS OVENSENSIS Blackburn (1890).

Hab.—Victoria: Ovens, Goulburn and Yarra Rivers. I found it in December at Jamieson on pebble beds at the margin of the Goulburn River.

TACHYS FLAVICORNIS, n.sp.

Oval, convex. Head with short duplicated frontal sulci; prothorax of equal width at base and apex, basal angles rectangular, a short submarginal carina on each side of base; elytra bistriate on each side of suture, eighth stria strongly impressed, apical striole well developed, ninth interstice convex, disc bipunctate outside second stria. Head and prothorax polished brown; elytra nitid, piceous, with wide humeral and ante-apical yellowish maculae; legs, antennae, and palpi testaceous.

Head wide; frontal sulci not crossing clypeus, extending backward to level with anterior supra-orbital seta; eyes prominent, hemispherical. Prothorax transversely subcordate; sides rounded on anterior two-thirds, evidently narrowed and shortly subsinuate to base; lateral channel wide; border wide, reflexed; lateral basal impressions deep, connected by a well-marked transverse impression; space between basal impression and lateral channel forming a short carina extending to basal angle on each side. Elytra oval, convex; shoulders ampliate, rounded; base with a deep fovea on each side of peduncle; first stria extending to apex, not reaching base, second stria abbreviated anteriorly and posteriorly. Length, 2.5; breadth, 1.0.

Hab.—Queensland: Cooktown District (Sloane), Townsville (Dodd). I found this species, in July, on the sandy margins of pools in the Laura River, and beside a pool with sandy margins in the course of a rivulet near Helenvale, 16 miles south of Cooktown.

T. flavicornis is not closely allied to any other Australian species; its affinity is to *T. deliciolus* Bates (which I have from Java, Sumbawa, and New Guinea), but it differs by antennae wholly testaceous; prothorax more transverse, more strongly rounded on sides, more sinuate posteriorly, wider across base, marginal channel wider; elytra wider, especially at base, first stria not reaching base, light-coloured basal maculae overspreading more of the elytra.

Note.—*T. nietneri* Bates (=*T. ornatus* Nietner), which is unknown to me in nature, seems the only closely allied Oriental species with the antennae wholly testaceous; it cannot be said to be described, but Nietner's note on it says, in comparison with his *T. emarginatus*, *"corpore graciliore"*—*T. flavicornis* is a more robust species than *T. emarginatus*.

TACHYS CONVEXUS Macleay.

Bembidium convexum, Macleay, Trans Ent. Soc. N.S. Wales, ii., 1871, p. 115.— *Bembidium bistriatum*, Macleay, *ibid.*

The name *T. bistriatus* was already in use when Macleay proposed it in 1871, therefore *T. convexus* must be used. I have on several occasions carefully

examined the original specimens from Gayndah in the Australian Museum under the names *T. convexus* and *T. bistriatus,* and am certain both names belong to the same species.

Hab.—Tropical Australia (widely distributed); extending as far south as the Blue Mountains in New South Wales. I found it in the Cooktown District in very damp places, often beside springs.

TACHYS HAEMORRHOIDALIS Dejean (1831) var. CURTICOLLIS Sloane (1896).

Hab.—Coastal districts of Eastern Australia, from Cooktown to the Murrumbidgee River, on margins of fresh water creeks and lagoons.

I cannot now separate my *T. curticollis* from the Palearctic species *T. haemorrhoidalis,* except by its 4-maculate elytra; the same pattern occurs in var. *socius* Schm., of North Africa, which is unknown to me in nature. *T. emarginatus* Niet., which is widely spread in the Oriental Region (*T. geminatus* Schaum., seems a synonym), differs from *T. haemorrhoidalis;* the sculpture of the head is the most evident difference: frontal sulci longer and deeper, space between sulcus and margin of head on each side longitudinally striolate.

The following is the synonymy of *T. haemorrhoidalis,* as far as I know it:—

T. haemorrhoidalis Dejean (=*T. kanalensis* Perroud, 1864, New Caledonia).

var. *socius* Schaum (1863); 4-maculate form of N. Africa.

var. *curticollis* Sloane (1896); 4-maculate form of Australia.

var. *abyssinicus* Chaudoir (1876); immaculate form of Africa.

TACHYS SPENCERI Sloane (1896).

Hab.—Western Australia: King's Sound (Froggatt), Upper Ord River (Helms); Queensland: Cooktown District (Sloane), Kuranda and Townsville (Dodd); Central Australia (Spencer).

I found it very plentiful in the Cooktown District beside fresh water, hiding in the roots of grass, under stones, and under bark of fallen logs leaning into the water.

TACHYS IASPIDEUS Sloane (1896).

Hab.—N.S. Wales: Tamworth and Inverell (Lea), Mudgee (Sloane); Queensland: Coomera (south of Brisbane, Sloane). Habits riparian; I found it not uncommon, in February, among the pebbles of a stone-bed on the Cudgegong River, near Mudgee.

TACHYS MURRUMBIDGENSIS Sloane (1894).

This species varies in size from 1.75 to 2.4 mm. in length; I obtained three specimens of larger size (2.6—2.75 mm.), in company with specimens of ordinary size, hibernating beneath the bark of a red-gum tree beside the Macquarie River at Narromine in July; I cannot differentiate these large specimens from the typical form.

Hab.—On sand banks and pebble beds by the margins of rivers in N.S. Wales: Murray River (Mulwala), Murrumbidgee River (Narrandera), Cudgegong River (Mudgee), Macquarie River (Narromine).

TACHYS LEAI Sloane (1896).

This species is very close to *T. murrumbidgensis* Sl., from which it differs chiefly by its black colour; prothorax polished, with faint and microscopic punctuation, more convex and rounded on sides. When describing *T. leai,* I recorded

that the prothorax is impunctate, but this is an error; an examination of the cotype in my collection under a microscope discloses a faint and sparse puncturation.

TACHYS WILSONI, n.sp.

Robust, convex. Prothorax transverse, subcordate; elytra convex, smooth, sutural stria strongly impressed, fifth present on basal third, apical striole short, wide, near margin. Head brown; prothorax and elytra ferruginous, nitid; legs and antennae testaceous.

Head stout; frontal sulci parallel, short, not deep. Prothorax rounded on sides, shortly sinuate before posterior angles; base truncate above peduncle, sloping lightly obliquely forward on each side. Elytra oval; eighth stria obsolete; a foveiform impression a little inward from apical striole; three fixed punctures present, anterior at position of fourth interstice, posterior high up on apical declivity; second stria obsolescent, faintly perceptible between discal punctures; a puncture at anterior extremity of apical striole. Length, 2; breadth, 0.9 mm.

Hab.—Queensland. A specimen was kindly given to me by Mr. F. E. Wilson, who found it at Brisbane in October.

A very distinct species, more allied to *T. leai* Sl., than to any other species known to me, but differing decidedly by colour; smaller size; head shorter, frontal sulci shorter and more parallel, eyes less prominent; elytra more oval and much more convex, discal striae (excepting first and basal part of fifth) almost completely lost. Comparing it with *T. australicus* Sl., the presence of the strongly impressed basal part of the fifth stria at once distinguishes it. The head and prothorax have some microscopic punctures, which are stronger on the head.

TACHYS ECTROMIOIDES Sloane (1896).

Hab.—N.S. Wales: Richmond River (Lea), Blue Mountains (Carter); Victoria: Melbourne (Fischer); W. Australia: Donnybrook (Lea).

This seems to be a rare species. I know nothing about its habits.

TACHYS ATRIDERMIS, n.sp.

Oval, robust, convex. Head convex, frontal furrows well marked, clypeus with lateral punctures foveiform; prothorax transverse, evidently narrowed to base, lateral basal impressions deep, basal angles rectangular; elytra oval, bistriate on each side of suture, eighth stria entire, first interstice raised, ninth interstice depressed, disc bipunctate, apical striole well developed, short. Black, legs ferruginous; antennae infuscate with base ferruginous; palpi infuscate.

Head wide, convex; frontal impressions elongate, lightly divergent posteriorly, not extending on to clypeus; space between frontal impression and eye on each side narrow, raised, bearing a foveiform setigerous puncture posteriorly; antennae stout, second joint rather shorter than third. Prothorax widest a little before middle, a little wider at base than apex; sides lightly roundly ampliate before middle, obliquely narrowed to base; lateral border reflexed; space between lateral basal fovea and margin raised into a short carina; a deep transverse linear basal impression extending inwards from each lateral fovea, but not meeting in middle. Elytra oval; two or three crenulate striae on disc, first entire, second hardly perceptible on apical third, but developed into a shallow oblong fovea between apical striole and suture; a well marked basal fovea on each side of scutellum; two fine punctures on disc outside second stria, a dis-

tinct puncture near inner side of apical striole far back. Length, 2.6; breadth, 1.2 mm.

Hab.—Victoria: Belgrave (Wilson), Mountains of Upper Yarra (Fischer). I owe a specimen to the kindness of Mr. Fischer. Colls. Wilson, Fischer, and Sloane.

It is probably allied to *T. baldiensis* Blackb., which is unknown to me in nature, but is smaller, and does not agree with the description of that species; for one thing, the striae are not on the disc "*crassissime punctulatis.*" The male has one setigerous fovea on each side of the apex of the abdomen; Blackburn has noted that *T. baldiensis* ♀ has two large setiferous punctures on each side. The anterior tarsi have the two basal joints dilatate, the posterior tarsi are shorter than usual in the genus, first joint not as long as three succeeding joints together, hardly as long as fifth.

TACHYS CARINULATUS, n.sp.

♀. Robust, oval. Prothorax transverse, decidedly narrowed to base, a short submarginal carina near each basal angle; elytra bistriate on disc, bipunctate on disc at position of third interstice, eighth stria obsolete on basal half, apical striole short, distinct. Piceous, apical declivity and posterior part of lateral declivities of a more or less dull ferruginous colour; antennae fuscous, basal joint and legs testaceous.

Head laevigate; front lightly and shortly bi-impressed. Prothorax broader than long, a little wider at base than apex; base truncate, angles rectangular; a transverse stria near base. Elytra oval, much wider than prothorax; first stria fine, but well marked, a little punctate, second very faint; border wide, reflexed; a puncture beside inner side of apical striole far back, space between apical striole and eighth stria narrow, carinate. Length, 2; breadth, 1.1 mm.

Hab.—Victorian Alps (Hospice, Mt. St. Bernard, Davey).

I owe a single specimen of this species to the kindness of Mr. H. W. Davey; it is a distinct species, in some ways resembling *T. mulwalensis* Sl., but with a submarginal basal carina on each side of prothorax as in *T. atridermis* Sl., beside which I have placed it in the table above; from *T. atridermis* it is readily differentiated by size smaller; form less convex; front less strongly bi-impressed; elytra much less strongly striate on disc, eighth stria not entire.

TACHYS MITCHELLI Sloane (1894).

Hab.—N.S. Wales: Urana and Mulwala (Sloane); Victoria: Sea Lake (Goudie). Found beside fresh water marshes in muddy situations under logs and debris.

TACHYS MULWALENSIS Sloane (1899).

Hab.—Murray River, Mulwala and Albury (Sloane); Melbourne (Fischer).

Length, 3 mm. (Melbourne specimens, 2.5 mm.). ♂ with basal joint of anterior tarsi wide.

In my description the length was erroneously given as 2 mm.; a remeasurement of the type specimens shows the correct length to be 3 mm. I obtained this species in great numbers under the bark of redgum trees standing in the flood waters of the Murray River; specimens were also found in the debris washed up by flood waters at Albury. Mr. Ejnar Fischer has sent me very dark coloured specimens from Melbourne, with the information that he finds it not uncommon under the bark of trees.

TACHYS BIFOVEATUS Macleay.

Bembidium bifoveatum, Macleay, Trans. Ent. Soc. N.S. Wales, ii., 1871, p. 117.—*Bembidium ovatum*, Macl., *ibid.*—*Tachys ovatus* Macleay (*non* Motschulsky) Sloane, Proc. Linn. Soc. N.S. Wales, xxi., 1896, p. 369.

Widely spread in Eastern Australia, and also occurring in Tasmania. It is usually found in very damp situations under stones or drift, but Mr. H. J. Carter finds it commonly in tussocks of grass in his grounds at Wahroonga, near Sydney. It is a species of Motschulsky's genus *Elaphropus*, which has the claws of the tarsi minutely serrulate (as recorded by Motschulsky and G. H. Horn). I do not recognise *Elaphropus* as of more than subgeneric rank. In this group (which is numerously represented in the Oriental Region) only one discal non-setiferous puncture occurs on the disc of the elytra, behind the middle, at the position of the third interstice; there is, also, a puncture at the inside of the apical striole far back from its anterior extremity, but no setiferous pore high up on the apical declivity.

TACHYS BLACKBURNI, n.sp.

Oval, convex. Black; legs testaceous; antennae infuscate, with basal joint testaceous.

Head convex; front lightly bi-impressed, impressions short, wide apart. Prothorax small, laevigate, widest a little before middle; sides rounded anteriorly, lightly subsinuately narrowed to base; basal angles rectangular, not prominent; base bifoveate; a light transverse impression between basal foveae. Elytra oval, rather convex, bistriate on each side of suture; first stria well marked, entire, punctate on disc, simple towards apex, second stria only present on disc, punctate, eighth stria obsolete on middle of sides, distinct towards apex; apical striole well developed; marginal channel distinctly punctate on middle of sides; disc bipunctate outside second stria. Length, 2; breadth, 0.75 mm.

Hab.—Victoria: Beaconsfield ("in moss," Wilson), Mooroolbark (under a stick in a muddy place, Sloane).

A distinct species resembling *T. olliffi* Sl., and *T. habitans* Sl., but with elytra only bistriate, it is more allied to *T. carinulatus* Sl.

TACHYS AUSTRALICUS Sloane (1896).

Hab.—Eastern coastal districts from Cooktown to Sydney; found in very damp situations beside fresh water marshes and pools under drift or debris.

Note.—In the description of *T. australicus*, I have said the elytra are without discoidal punctures, but this is erroneous, two fine punctures are present on the disc at position of third interstice; the elytra have only the two inner striae present.

TACHYS DODDI Sloane (1903).

Hab.—Queensland: Townsville (Dodd); Victoria: Lakes Entrance (Wilson). Common on sandy margins of tidal lagoons near Townsville.

Note.—I have in my collection a Malayan species which cannot be differentiated from *T. doddi*, though the basal angles of the prothorax are a little less acute; it seems to vary a good deal in size, and may be conspecific with Putzey's *T. plagiatus*, or his *T. pictipennis*, which may be forms of one species, but I have not felt able to be certain on this point. Length, 2.5—3 mm.

Hab.—Philippines, Celebes, Sumbawa.

TACHYS QUEENSLANDICUS Sloane (1903).

I found this species common on the sandy margin of a tidal lagoon at Townsville in May.

T. cruciger Putzeys (1875). I have a specimen ticketed Celebes which I cannot differentiate from *T. queenslandicus*, though the colour is darker, and more iridescent, and the spots of the elytra are more clearly defined and do not approach each other so closely on the sides; I believe this is likely to be *T. cruciger* Putz., but am not absolutely sure on the point.

TACHYS INFUSCATUS Blackburn (1887).

Hab.—Western Australia: Swan River (Lea); South Australia (Blackburn); Victoria (Fischer). Mr. Ejnar Fischer has informed me that *T. infuscatus* is common near salt water about Melbourne. Blackburn has drawn attention to the great resemblance of *T. similis* Blackb., to *T. scutellaris* of the Palaearctic Region (Trans. Roy. Soc. S. Aust., xxv., 1901. p. 122), but *T. infuscatus* resembles *T. scutellaris* even more closely than *T. similis* does.

TACHYS SIMILIS Blackburn (1887).

Hab.—South and Central Australia. Specimens were sent to me by Mr. A. M. Lea from Adelaide, Flinders Range, Oodnadatta, and Cunnamulla.

Blackburn differentiated *T. similis* from *T. infuscatus* by colour; shorter, broader and more depressed form; posterior angles of prothorax "though obtuse not far from right angles." With these views I agree, but would note that in *T. similis* the prothorax is more transverse and its base is less strongly oblique on each side behind the basal angles, the summit of the angles does not appear to me to differ perceptibly, but the greater slope of the sides of the base makes the angles in *T. infuscatus* seem more obtuse.

TACHYS SINUATICOLLIS Sloane (1903).

Hab.—Queensland: Cairns; Celebes; Java.

Mr. Lea sent me a good series of specimens ticketed "Cairns, taken at light"; and numerous specimens from Celebes and Java were among the duplicates of the Van de Poll collection.

TACHYS TRIANGULARIS Nietner (1858).

Hab.—Africa; Oriental Region; Australia.

As long ago as 1873 Bates had recorded that *T. atriceps* Macleay (1871) was a synonym of *T. triangularis* Niet.

TACHYS MASTERSI, nom. nov.

Bembidium sexstriatum, Macleay, Trans. Ent. Soc. N.S. Wales, ii., 1871, p. 117 (*nom. praeocc.*).

The name of *T. mastersi* is now proposed to replace *T. sexstriatus* Macleay, which had been used for a species of *Tachys* as long ago as 1812.

Hab.—Queensland: Gayndah (Masters), Cairns and Cooktown District (Sloane). I found specimens on the sandy margins of a pool in a rivulet at Helenvale, near Cooktown.

Tachys macleayi Sloane (1896).

Hab.—Tropical Australia: King's Sound (Froggatt); Queensland: Cooktown District (Sloane). I obtained several specimens on a sand bank at the margin of the Normanby River in June.

Genus Limnastis.

Lymnastis, Motschulsky, Etud. Ent., xi., 1862, p. 27.

The original spelling of this generic name has been altered by later authors. The range of the genus extends over Australia, Malaysia, Asia, Africa, Europe, North and Central America.

Limnastis pilosus Bates.

Ann. Mus. Civ. Genov., xii., 1892, p. 296; Sloane, Proc. Linn. Soc. N.S. Wales, xlv., 1920, p. 321.—*Tachys setiger*, Sloane, Proc. Linn. Soc. N.S. Wales, xxviii, 1903, p. 582.

Hab.—Australia: Oenpili (Cahill), Cairns (Sloane), Townsville (Dodd), Melbourne (Fischer); Borneo; Burma.

Genus Illaphanus.

Elytra non-striate on disc, 1.5—2 mm. (after Lea) .. .. *macleayi* Lea
Elytra with a single strong oblique longitudinal stria on disc. 1.3—1.5 mm. *stephensi* Macl.

Illaphanus stephensi Macleay (1864).

Hab.—Port Jackson (Lea), Wollongong (Macleay), Ferntree Gully (Spry).

These insects, according to Lea, are found under stones deeply buried in damp, but not wet, soil.